

Claims

What is claimed is:

1. A telephony exchange for providing voice and real-time
5 communications to a plurality of user locations over telephony cabling, each location including a telephony terminal and a digital subscriber line (DSL) modem coupled to the telephony cabling, the telephony exchange comprising:
 - 10 a) a telephony switch operatively coupled to a circuit-switched telephony network and the telephony cabling and adapted to provide voice communications with the telephony terminal at each user location over the telephony cabling; and
 - 15 b) a DSL server operatively coupled to a packet network and the telephony cabling and adapted to provide real-time communications using a DSL service with the DSL modem at each user location over the telephony cabling, wherein the DSL modem is operatively coupled to a device supporting the real-time communications at the user location.
- 20 2. The telephony exchange of claim 1 further comprising a differentiated services controller operatively associated with the DSL server and adapted to provide differentiated services control for the real-time communications provided to the DSL modems at the user locations.
- 25 3. The telephony exchange of claim 2 wherein the differentiated services controller is further adapted to provide quality of service control for the real-time communications.
- 30 4. The telephony exchange of claim 2 further comprising a media controller operatively coupled to the differentiated services controller and the telephony switch and adapted to control multimedia sessions comprising a voice session and a real-time communication session.

5. The telephony exchange of claim 2 wherein the differentiated services controller is coupled between the packet network and the DSL server.
- 5 6. The telephony exchange of claim 5 wherein the differentiated services controller is coupled to a local routing or switching system, which is connected to the packet network.
- 10 7. The telephony exchange of claim 1 further comprising a cross connect to which the DSL server, telephony switch, and telephony cabling are connected, wherein a separate telephony cable of the telephony cabling connects each user location to the cross connect.
- 15 8. The telephony exchange of claim 1 wherein data services are provided to each device via network cabling operatively coupled to the packet network via a local routing or switching system.
- 20 9. The telephony exchange of claim 1 wherein the DSL server is further adapted to provide data services to the device at each user location via the telephony cabling and the DSL modem.
- 25 10. The telephony exchange of claim 1 wherein the telephony switch is a private branch exchange telephony switch.
- 30 11. A method for providing voice and real-time communications to a plurality of user locations over telephony cabling, each location including a telephony terminal and a digital subscriber line (DSL) modem coupled to the telephony cabling, the method comprising:
 - a) providing voice communications with the telephony terminal at each user location over the telephony cabling via a telephony switch operatively coupled to a circuit-switched telephony network and the telephony cabling; and
 - b) providing real-time communications using a DSL service with the DSL modem at each user location over the telephony cabling via a DSL server operatively coupled to a packet network and the

telephony cabling, wherein the DSL modem is operatively coupled to a device supporting the real-time communications at the user location.

- 5 12. The method of claim 11 further comprising providing differentiated services control for the real-time communications provided to the DSL modems at the user locations.
- 10 13. The method of claim 12 further comprising providing quality of service control for the real-time communications.
- 15 14. The method of claim 12 further comprising controlling multimedia sessions comprising a voice session and a real-time communication session.
- 20 15. The method of claim 11 wherein a cross connect couples the DSL server, telephony switch, and telephony cabling, wherein a separate telephony cable of the telephony cabling connects each user location to the cross connect.
- 25 16. The method of claim 11 further comprising providing data services to each device via network cabling operatively coupled to the packet network via a local routing or switching system.
- 30 17. The method of claim 11 further comprising providing data services to the device at each user location via the telephony cabling and the DSL modem using the DSL server.
18. The method of claim 11 wherein the telephony switch is a private branch exchange telephony switch.
19. A system for providing voice and real-time communications to a plurality of user locations over telephony cabling, each location including a telephony terminal and a digital subscriber line (DSL)

modem coupled to the telephony cabling, the telephony exchange comprising:

- 5 a) means for providing voice communications with the telephony terminal at each user location over the telephony cabling via a telephony network; and
- 10 b) means for providing real-time communications using a DSL service with the DSL modem at each user location over the telephony cabling via a packet network, wherein the DSL modem is operatively coupled to a device supporting the real-time communications at the user location.
20. The system of claim 19 further comprising means for providing differentiated services control for the real-time communications provided to the DSL modems at the user locations.
- 15 21. The system of claim 20 wherein the means for providing differentiated services control further comprises means for providing quality of service control for the real-time communications.
- 20 22. The system of claim 19 further comprising means for controlling multimedia sessions comprising a voice session and a real-time communication session.
- 25 23. The system of claim 19 further comprising means for providing data services to each device via network cabling operatively coupled to the packet network via a local routing or switching system.
- 30 24. The system of claim 19 further comprising means for providing data services to the device at each user location via the telephony cabling and the DSL modem.
25. The system of claim 19 wherein the telephony switch is a private branch exchange telephony switch.